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FEBRUARY 17, 2006

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DAVID E. BENNETT
COATS & BENNETT, P.L.C.
1400 CRESCENT GREEN, SUITE 300
CARY, NC 27511UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT SERVICES BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 01/13/2006

REEL/FRAME: 017184/0752
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

OVERSTREET, FRANK R.

DOC DATE: 12/08/2003

ASSIGNEE:

SONY ERICSSON MOBILE
COMMUNICATIONS AB
NYA VATTENTOMET
S-221 88 LUND, SWEDEN

SERIAL NUMBER: 10731055

FILING DATE: 12/09/2003

PATENT NUMBER:

ISSUE DATE:

TITLE: POSITIONING ACCESSORY FOR CAMERA-EQUIPPED WIRELESS TERMINALS

Q17184/0752 PAGE 2

KIMBERLY WHITE, EXAMINER
ASSIGNMENT SERVICES BRANCH
PUBLIC RECORDS DIVISION

01/13/2006 14:52 9198589852

COATSBENNETT

PAGE 03/07

FORM PTO-1595

1-31-02

01/13/2006
PATENT COVER SHEET
PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office

The Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Frank R. Overstreet

2. Name and address of receiving party(ies):

Name: Sony Ericsson Mobile Communications AB

Internal Address: _____

Additional names of conveying party(ies) attached? ☐ yes ☐ no

3. Nature of conveyance:

☒ Assignment

☐ Merger

☐ Security Agreement

☐ Change of Name

☐ Other _____

Additional name(s) & address(es) attached? ☐ Yes ☒ No

Execution Date: December 8, 2003

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: December 6, 2003

A. Patent Application No.(s)

B. Patent No.(s)

10/731,055 filed 12/9/03

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: David E. Bennett

Internal Address: Coats & Bennett P.L.L.C.

Street Address: 1400 Crescent Green, Suite 300

City: Cary State: NC Zip: 27511

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41): \$40.00

☒ Enclosed

☐ Authorized to be charged to deposit account

8. Deposit account number: 18-1167

(Attach duplicate copy of this page if paying by deposit account)

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

David E. Bennett

Name of Person Signing

David E. Bennett
Signature

12/9/03
Date

Total number of pages comprising cover sheet: 1

OMB NO. 0651-0011 (exp. 4/94)

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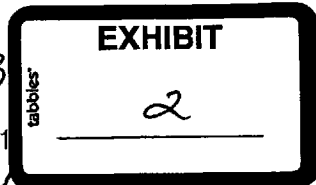
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Sony Ericsson



U03
1(1)
Access

Invention Disclosure Form

Docket No. _____

Date opened: _____

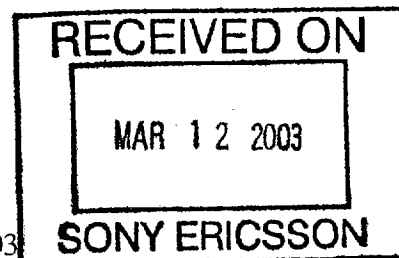
1. Invention Title: Positioning Device for Camera-Equipped Wireless Terminals

2. Submitted by:	1 st Inventor	2 nd Inventor	3 rd Inventor
(a) Full Name (3 names or 2 names & 1 initial)	Frank R. Overstreet		
(b) Home Address	10817 Leslie Drive Raleigh, NC 27614		
(c) Work Phone	(919) 472-6832		
(d) Citizenship	USA		
(e) Pay No. (5 digit)	contractor		
(f) Manager	Al L'Homme		
(g) Cost Center			
(h) Your Product Unit			
CDMA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GSM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CTO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
M2M	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(i) Your Group:			
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mechanics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Date the invention was conceived :

5. Identify dates :

- Past disclosure of the invention outside the company: NA
- Future disclosure of the invention outside the company: NA
- Publication of the invention: NA
- Discussion with business partners about the invention: March 6, 2003



6. Related known products, patents, disclosures, or publications:

7. Please complete the second page of this form completely describing your invention, along with any other relevant documentation.

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1) <i>Frank R. Overstreet</i>	March 12, 2003	(1) <i>[Signature]</i>	3/12/03
(2)		(2) <i>[Signature]</i>	3/12/2003
(3)		(3)	

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Sony Ericsson

Invention Disclosure

Docket No. U03 0050

Title: Positioning Device for Camera-Equipped Wireless Terminals

1. What area of technology is your invention in? (Check 2 maximum)

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Accessories | <input checked="" type="checkbox"/> Mechanics | <u>Software</u> |
| <input type="checkbox"/> Acoustic / audio | <input type="checkbox"/> Packaging | <input type="checkbox"/> Applications |
| <input type="checkbox"/> Antennas | <input type="checkbox"/> Phone architectures/RF | <input type="checkbox"/> Diagnostic/tools |
| <input type="checkbox"/> Baseband / digital | <input type="checkbox"/> Phone features/concepts | <input type="checkbox"/> Java |
| <input type="checkbox"/> Batteries / chargers | <input type="checkbox"/> Systems | <input type="checkbox"/> Physical layer/firmware/DSP |
| <input type="checkbox"/> Bluetooth | <input type="checkbox"/> Systems algorithms | <input type="checkbox"/> Positioning/GPS |
| | <input type="checkbox"/> Displays / LCDs | <input type="checkbox"/> Protocol |

2. What are the benefits of your invention?

- | | | |
|--|---|---|
| <input type="checkbox"/> Appearance | <input checked="" type="checkbox"/> Easier to use | <input checked="" type="checkbox"/> New feature |
| <input checked="" type="checkbox"/> Better performance | <input type="checkbox"/> Efficiency | <input type="checkbox"/> Power saving |
| <input type="checkbox"/> Cost savings | <input type="checkbox"/> Improved audio | |

3. What problem is solved by your invention and how was it solved before?

Cite any known inventions for which yours is a replacement. Tripods. A published application #20010013890 "Camera for Use With Personal Digital assistants With High Speed Communication Link" had similar aspects but always seemed to require that a camera attach to a PDA. This invention assumes the camera is integral to the wireless terminal.

4. What is your invention and how is it better than prior solutions? Describe in detail the structure, and how to make and use your invention, particularly the features which make it advantageous. Include drawings, flow charts, block diagrams, schematics, etc. See following attachments.

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1)		(1)	
(2)		(2)	
(3)		(3)	

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Technical information

NAME OF INVENTION

Positioning Device for Camera-Equipped Wireless Terminals.

BACKGROUND

This invention relates to camera-equipped wireless terminals and describes a device which attaches to camera-equipped wireless terminals for the purpose of providing a stable platform with multi-axis positioning of the camera-equipped wireless terminal. Uses include but are not limited to: handsfree photography, long exposure photography and remote photography.

Traditional chemical film cameras and the more recent digital cameras frequently have the ability to connect to a tripod for the purposes of handsfree photography, long exposure photography and remote photography. The cameras are typically attached to a tripod by placing the camera on the tripod and threading a screw through the tripod into a threaded hole in the cameras base. In the case of cellphones and PDA's, this traditional approach is not practical as the threaded hole would be unsightly, would require too much space and would be difficult to withstand potential torque applied to it. In addition, the entire configuration would be bulky as most tripods are significantly larger than modern camera-equipped wireless terminals.

This invention overcomes the above limitations by providing a compact accessory that attaches to the camera-equipped wireless terminal, provides multi-axis positioning control, can be interfaced with a traditional tripod as well as providing an interface for flash and other accessories.

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1)		(1)	
(2)		(2)	
(3)		(3)	

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DESCRIPTION

In one possible configuration shown in figure 1, the device essentially consists of a base, a positioner and one or more interfaces to the terminals system bus. This device may function as a charging stand without affecting the devices use as a camera positioner. A flash accessory may also be attached to the device.

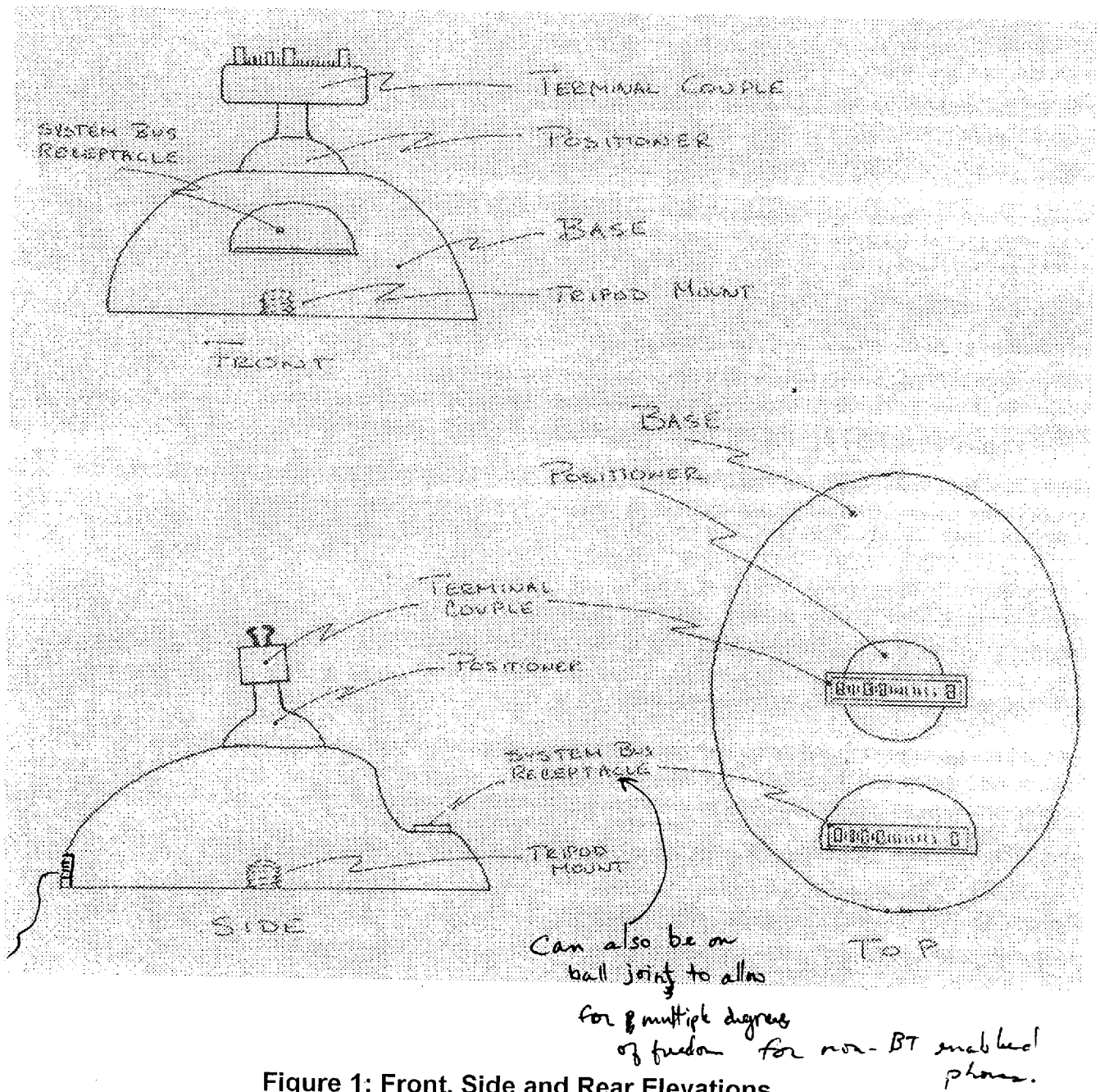
The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
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(3)		(3)	

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Sony Ericsson



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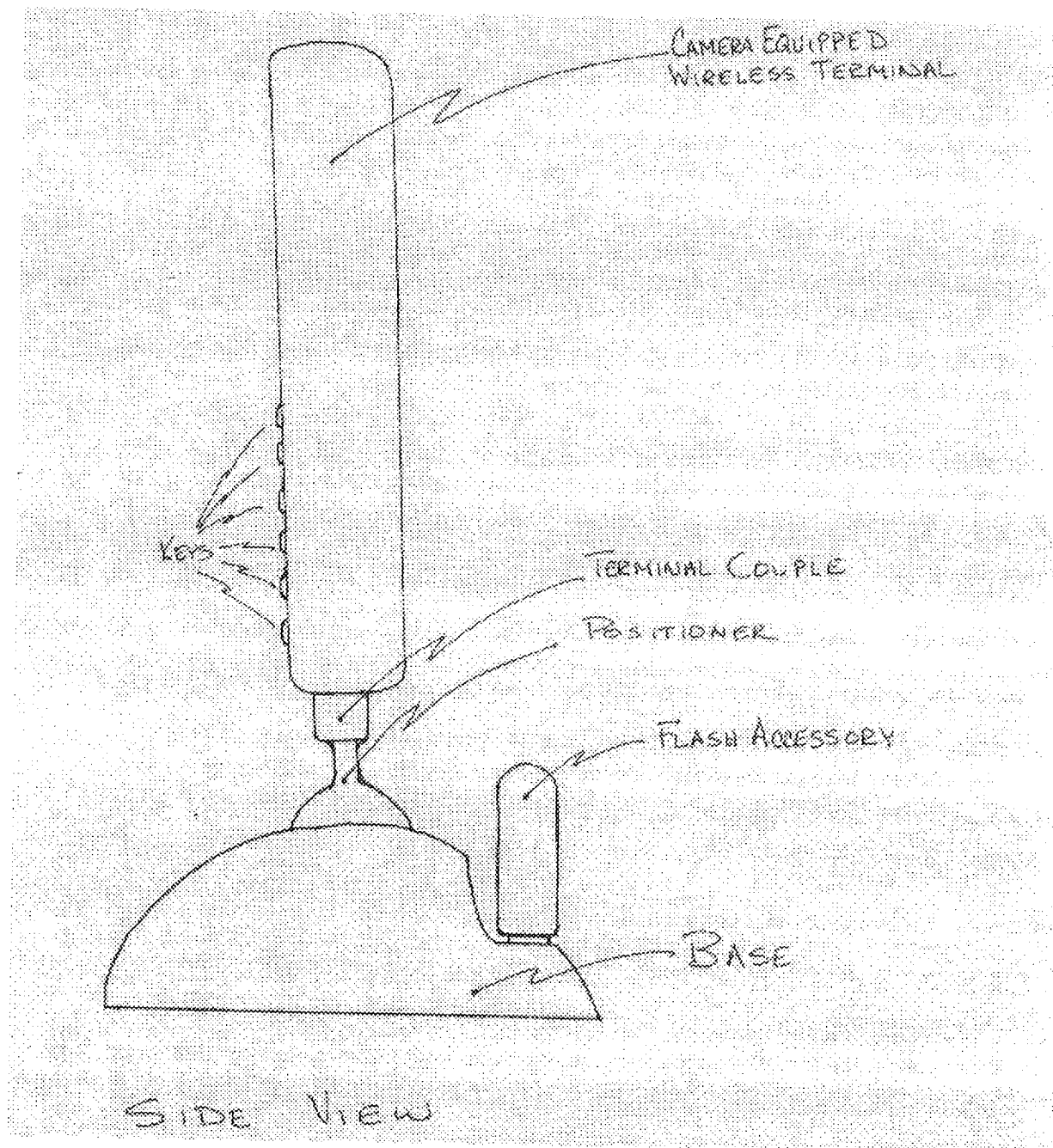


Figure 2: Side View

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

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Sony Ericsson

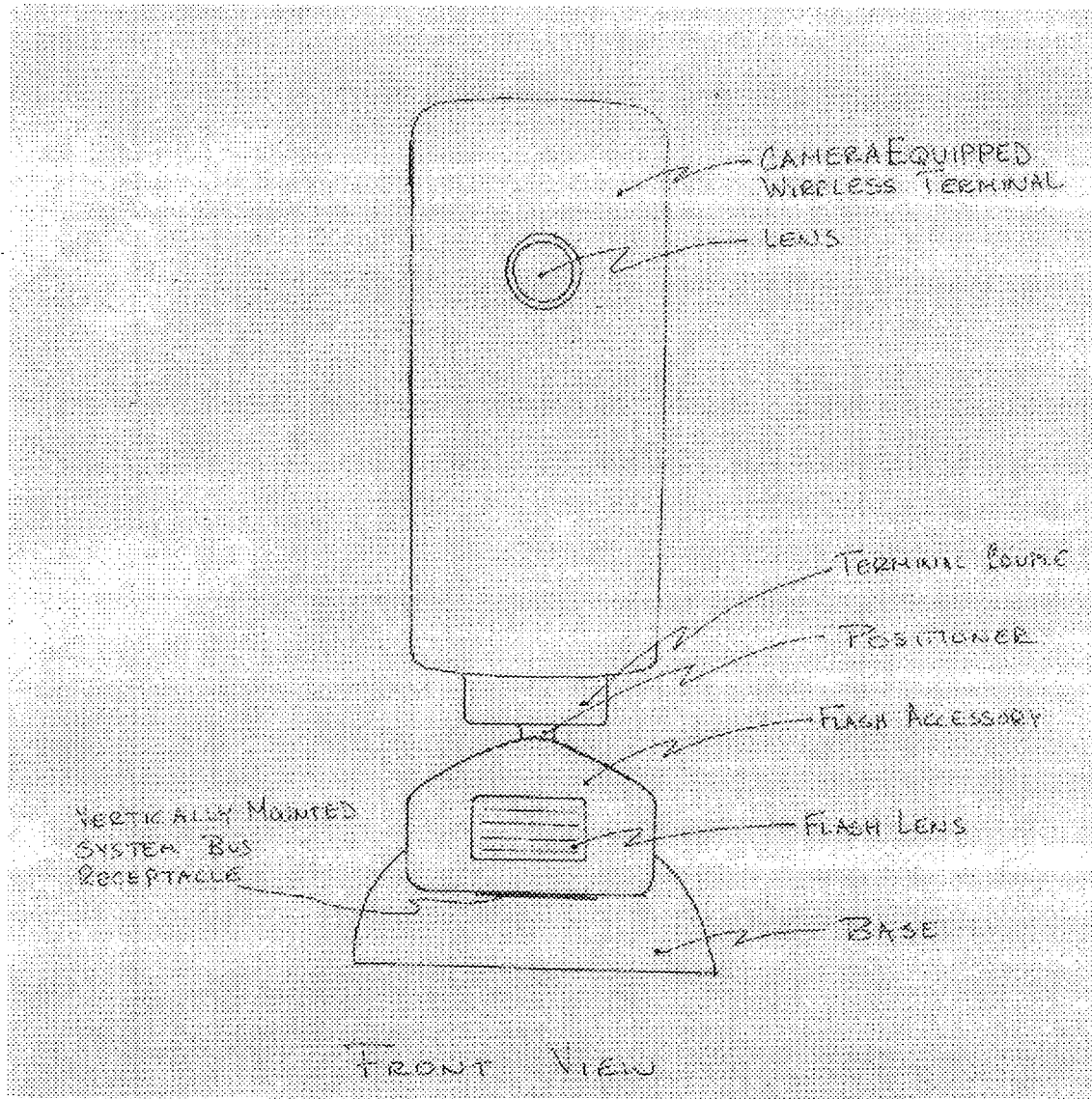


Figure 3: Front View

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

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Base

The base has sufficient weight and "footprint" to support the camera-equipped terminal in a variety of positions. On the underside of the base is a standard tripod mounting point for use in photographic situations where the height adjustment of a traditional tripod is required. A suction cup mount may be used in addition to or, in place of the standard threaded tripod mounting point.

Contained within the base may be one or more system bus connectors for the purpose of attaching charging, flash and other accessories to the terminal. The base attaches to the positioner. One possible base is shown above:

Positioner

The positioner attaches the base to the terminal couple and offers one or more degrees of freedom. Positioning may be achieved by a ball and socket (shown), ratcheting post, geared post or a variety of other means. The positioner may have a telescoping ability. Electrical connectors may pass through the positioner going to and from the base and terminal couple.

Terminal Couple

The terminal couple attaches the positioner to the wireless terminal. The couple may be a connector such as a SonyEricsson 3V connector, and or other more universal grasping mechanisms such as a clamping device. Many mechanical possibilities exist for "other universal grasping mechanisms" but have in common the ability to securely hold the camera-equipped wireless terminal across all its positioning angles.

An additional possibility is that the terminal couple could be attached to a standard tripod socket. This would allow the camera-equipped wireless terminal to be directly connected to a tripod. One such example is shown below. While systembus connector is shown, nothing would prevent a more universal grasping mechanism from being used in place of the system bus connector.

ADDITIONAL EMBODIMENT

Another embodiment is of a new "mini" tripod designed specifically for mounting camera-equipped wireless terminals. This tripod differs from traditional tripods in the following:

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

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(1)		(1)	
(2)		(2)	
(3)		(3)	

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- Rather than using a screw to secure the camera to the tripod, a positioner and terminal couple as described above may be used.
- An interface to the terminals system bus may be provided for attaching flash and other accessories. The system bus interface is electrically connected to the terminal couple.

STATE-OF-THE-ART

Tripods are the current state-of-the-art for stable positioning control of consumer cameras. Tripods are bulky and require mounting hardware which in the case of a camera-equipped cellphone would be too massive. This invention improves on the state-of-the-art by providing a stable yet compact positioning device which when necessary can be directly attached to a conventional tripod.

A search of the US patent office for both granted and patent applications did not turn up any related prior art. The following keywords were used in the search: cellphone, tripod, camera, attaches, accessory, wireless, adapter. One published application #20010013890 "Camera for Use With Personal Digital assistants With High Speed Communication Link" had similar aspects but always seemed to require that a camera attach to a PDA. This invention assumes the camera is integral to the wireless terminal.

MERITS OF THE INVENTION

Merits of this invention are:

- Facilitates remote control of camera functionality.
- Greatly enhances and expands a photographer's ability to take self-portraits and group portraits including the photographer.
- Provides a stable platform for long exposure photography.
- Capable of functioning as a charging port
- Capable of enabling flash photography.
- Could have a universal type couple allowing a broad range of devices to be attached.

The invention described in the attached invention disclosure is hereby submitted under my employment agreement with SEMC

Inventor's full signature	Date	Witnessed, read, understood, and signed by	Date
(1)		(1)	
(2)		(2)	
(3)		(3)	

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Sony Ericsson Mobile Communications (USA) Inc.
7001 Development Drive
RTP, North Carolina 27709

EXHIBIT

tabbles

3

VIA FEDERAL EXPRESS

July 7, 2003

David E. Bennett, Esq.
Coats & Bennett
1400 Crescent Green
Suite 300
Cary, NC 27511

REQUEST TO FILE PATENT APPLICATION

SEMC Docket No.: U03 0050

Title: Positioning Device for Camera-Equipped Wireless Terminals

Inventor: Frank R. Overstreet

Dear David:

Please prepare and file a patent application in the U.S. Patent and Trademark Office on the above referenced invention. A copy of the invention disclosure and the inventor's questionnaire is enclosed. Any potential statutory bar date should be identified in one of these two documents; however, any potential bars should also be verified with the inventor.

A first draft of the application should be submitted to the inventor within three (3) months. Please advise if there is any problem with this schedule.

All rights in this application are to be assigned to Sony Ericsson Mobile Communications AB.

If you wish to discuss any matter regarding this application, please do not hesitate to contact me. Please contact the person noted above for any technical assistance in preparing the application.

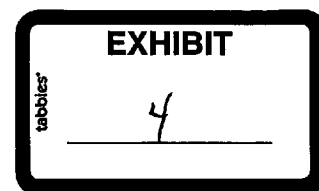
Best regards,

Debra K. Stephens / GCH

Debra K. Stephens
General Counsel, Intellectual Property

Enclosures





October 9, 2003

Mr. Frank R. Overstreet
Sony Ericsson Mobile Communications Inc.
7001 Development Drive
RTP, North Carolina 27709

RE: U.S. Patent Application
Your Ref: U03 0050
Our Ref: 2002-020
POSITIONING ACCESSORY FOR CAMERA-EQUIPPED WIRELESS TERMINALS

Dear Mr. Overstreet:

Enclosed please find the first draft of the above referenced application. Please carefully review the materials and contact me with any changes or comments you may have. Should you find the application satisfactory, please contact me so that our office may prepare the appropriate formal paperwork for filing.

Please do not hesitate to call if you have any questions.

Sincerely,

Stephen A. Herrera

SAH/rwg
Enclosure

cc: Debra K. Stephens, Esq.

Coats & Bennett

1400 Crescent Green, Suite 300 Cary, North Carolina 27511
Phone: (919) 854-1844 Facsimile: (919) 854-2084

November 25, 2003

VIA EMAIL

Mr. Frank Overstreet
Sony Ericsson Mobile Communications (USA) Inc.
7001 Development Drive
Research Triangle Park, NC 27709

RE: Your reference number: U03-0050
Our reference number: 2002-020
POSITIONING ACCESSORY FOR CAMERA-EQUIPPED WIRELESS TERMINALS

Dear Frank:

Enclosed please find the second draft of the above-referenced application. This draft includes the comments and the additional disclosure material you provided. For your convenience, changes to the specification and claims are clearly indicated. I have also inserted Figures 5A and 5B, and renumbered the remaining figures accordingly. If you have any comments, please feel free to call me, or amend the specification directly and send me an electronic copy. Should you find the application satisfactory, please contact me so that our office may prepare the appropriate formal paperwork for filing.

Please do not hesitate to call if you have any questions, and thank you for allowing us to be of service to you.

Sincerely,

Stephen A. Herrera

SAH/rwg
Enclosures

cc: Debra Stephens

Coats Bennett

1400 Crescent Green, Suite 300 Cary, North Carolina 27511
Phone: (919) 854-1844 Facsimile: (919) 854-2084

December 4, 2003

VIA EMAIL

Mr. Frank Overstreet
Sony Ericsson Mobile Communications (USA) Inc.
7001 Development Drive
Research Triangle Park, NC 27709

RE: Your reference number: U03-0050
Our reference number: 2002-020
POSITIONING ACCESSORY FOR CAMERA-EQUIPPED WIRELESS TERMINALS

Dear Frank:

Enclosed please find the third draft of the above-referenced application and drawings for your review. This draft incorporates your comments on the second draft. For your convenience, changes to the specification and claims are clearly indicated.

Please carefully review the enclosed specification and drawings to ensure they are accurate. If you have additional comments, please call me, or amend the specification directly and send me an electronic copy. Should you find the application satisfactory, please sign and notarize the attached formal paperwork. It would expedite filing if you faxed the signed and notarized paperwork to our office, and then mailed the originals to us.

Please do not hesitate to call if you have any questions, and thank you for allowing us to be of service to you.

Sincerely,

Stephen A. Herrera

SAH/rwg
Enclosures

cc: Debra Stephens



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10/731,055	12/09/2003	2612	1324	2002-020	8	46	4

CONFIRMATION NO. 6723

24112
COATS & BENNETT, PLLC
P O BOX 5
RALEIGH, NC 27602

FILING RECEIPT



OC000000012070645

Date Mailed: 03/11/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

Applicant(s)

Frank R. Overstreet, Raleigh, NC;

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 03/10/2004

Projected Publication Date: 06/09/2005

Non-Publication Request: No

Early Publication Request: No

Title

Positioning accessory for camera-equipped wireless terminals

Preliminary Class

348